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We live in a world of rapidly evolving technologies. In order to benefit as a society, we must approach health care technologies with rigor, with careful methodologies for their assessment and ongoing monitoring, and with strategies to enhance the adoption of those that show effectiveness. The article by Siegal, Farquhar, and Bouchard in this issue addressing dental sealants raises questions regarding technology transfer in its largest context.

Given a technology that is safe, effective, performs technically as it should, and improves upon existing technologies, what is needed to incorporate it into the current system of care? After the initial introduction of a

new technology, what are the next steps in assuring its adoption by clinicians and acceptance by patients?

Dental sealants arrived on the scene as an exciting tool for enhancing the prevention of dental caries.

They introduced not only a new material but a new way of working with materials using a sequential process that required accurate timing, a dry environment, and an ultraviolet light to polymerize the plastic in a surgical setting. The introduction of sealants into dentistry was rocky since they were technique-sensitive, required changes in hardware during their initial years of use, and incurred a cost for both the provider and the patient not fully valued by each or by third-party payers.

Over the past decades, numerous efforts have been undertaken to enhance their use. Research has continued to further improve upon their properties and has explored new approaches for their application. At the same time investigators have pursued studies exploring the knowledge, attitudes, and practices of practitioners, educators, and the public related to sealants and other caries-preventive measures. And, as mentioned by Siegal et al., their use has increased.

However, many of the research questions posed during the NIH Consensus Development Conference held in the early 1980s are still relevant. Is there a way to bond sealants to enamel without requiring the technique-sensitive methods of acid etching? What is the cost-effectiveness of using sealants in community pro-

grams under a variety of circumstances with respect to personnel and target populations? Can we find a low-cost screening method to identify children at high risk of getting pit and fissure caries?

We need to harness new technologies and develop them for use in a broad range of settings from self-application to community-based programs to practitioner-based care. Some basic questions arise: Can we identify (in a low-cost, noninvasive, but effective manner) who is at risk for the disease or condition of interest so that we apply the technology only to those who need it? Can the technology be further developed to reduce its cost and so it may be used in virtually any setting by a wide range of users? How does the technology inter-relate with other existing technologies? How do we inform the public about the technology? How do we monitor its use, effectiveness, and health effects once it is in practice? Furthermore, what is the role of managed care in development as well as incorporation of these new technologies?

These and other questions must be asked and addressed if we, as a society, are to benefit from the initial investment in a new technology. The closest we have come to a "vaccine" for dental caries is the combination cocktail of fluoride and dental sealants. Recent advances include remineralizing solutions that can restore initial damage to tooth structure noninvasively. Together, these interventions serve to protect teeth from a multimillion-year-old infection that attacks and degrades tooth structure, causes pain and disfigurement, and leads to loss of function. As with vaccines, the public must be informed of this service in order to take the initiative and incur the cost of availing themselves of the service, and public and private health providers must provide the service efficiently and appropriately. Accountability, availability, affordability, acceptability, and accessibility all play a role in this encounter, which mandates individual, provider, and community efforts.

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